APPENDIX 6 A REPORT TO THE SAN FRANCISCO-STATE JOINT FREEWAY STUDY



SECTION OF THE SECTIO

ON THE URBAN DESIGN ASPECTS ASSOCIATED WITH THE PANHANDLE AND GOLDEN GATE FREEWAYS 2/66



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THE PANHANDLE AND GOLDEN GATE FREEWAYS

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Freeway location and section key with anticipated future land use PARKS RESIDENTIAL COMMERCIAL INDUSTRIAL

I. INTRODUCTION

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The Urban Design Consultants were asked to examine urban design potentials and the effects on the structure of the City of freeway routes through the Golden Gate and the Panhandle corridors, from the Golden Gate Bridge to the Bay Bridge. In doing this, even in the short time allowed, it was necessary to widen the studies beyond specific design details of sections of the routes. Urban design starts at the scale of the city and its major parts, and then narrows down to detached design of smaller elements.

THE NEED FOR URBAN FREEWAYS has been questioned by some people, and this is an appropriate first question. It is a practical certainty that population and motor vehicle use will continue to increase in the Bay Area. San Francisco as the business and cultural center of the Bay Area will be directly affected by the traffic increase, and will either benefit from it and be strengthened as a metropolitan core area or, at the two extremes be bypassed or be strangled by traffic congestion. At present, about one third of the total volume of traffic in the City is traffic to and from other parts of the Bay Area, a proportion that will probably increase since the outer areas are growing more rapidly than the City itself. It is unlikely that any other mode of transportation within the next 20 years will reduce the growing use of motor vehicles sufficiently to overcome the need for more highway capacity on the main routes that connect the city with other sectors of the Bay Area. Freeways are the most efficient present means of providing capacity for traffic traveling longer distances. It is apparent that the existing freeways are overloaded.

If present traffic congestion is to be relieved and future traffic growth both within and without the City is to be accommodated, it can be concluded that additional freeways are needed within San Francisco.

URBAN DESIGN CRITERIA FOR FREEWAYS must be established, once the need for the freeways has been determined. Before a particular route or a detail of design can be evaluated, general desirable or undesirable qualities should be determined. Suggested criteria are outlined in Section II of this report. These include effect on the city and its parts, relationship to an overall transportation system, operational standards, visual and psychological effect on the freeway users, and esthetic impact on those who view the freeway. An urban freeway differs markedly from a rural freeway, and yet very little study has been made of those differences in purpose, scale and social and visual impact. If desirable criteria are violated, the departure from ideal standards should be consciously done, and only for impelling reasons.

THE STRUCTURE OF THE CITY and its component parts was next studied, in an effort to apply the basic criteria to San Francisco and specifically to the Golden Gate and Panhandle corridors. This structure is illustrated by a series of maps using information from documents of the City Planning Department, the Department of Public

Works, and the Community Renewal Program. These maps are appended, and are described in Section III of this report.

DETAILED ROUTE DESIGN through the two corridors was then studied in detail, section by section, so that maximum benefit could be gained from their advantages, and their disadvantages minimized. These design drawings constitute the bulk of the illustrative material in this report, and are described in Section IV and V of this report.

II. URBAN DESIGN CRITERIA FOR FREEWAYS

CITY-BUILDING CRITERIA

Freeways have the power to change a city because of their size and appearance and because of the activities they support and generate. If this power is to be used to improve the city rather than damage it and cause it to deteriorate, freeways must be planned and designed as city-building elements, and not only as facilities to move traffic. Freeways can be placed where they will strengthen topographic features or define boundaries of land use areas. They can be placed where access to them can support or generate commercial, industrial and high-density residential development. They can also be used to tie together visually as well as physically the different parts of the city by connecting them into a freeway network that can be clearly understood. And finally, freeways can preserve and improve the quality and character of the City. Freeways that have been built in the past in San Francisco have affected the City's character and one of the major concerns in the future must be the location and design of freeways that can make useful contributions to the City's quality of human experience.

Following is a suggested list of criteria for the location of freeways to use and control their influence on the physical form of the city and on the ways in which people understand and appreciate that form.

- 1. Freeways may be located through industrial areas and provide these areas with efficient access.
- 2. They may be located through, or adjacent to, high-density residential and commercial areas where freeway access will tend to support these land uses.
- 3. They may be located through residential areas which require redevelopment and are to be redeveloped in high-density residential or commercial uses, provided the freeway is planned and designed jointly with the redevelopment project.
- **4.** If they must be located in lower density residential areas, careful design consideration are required to maintain the proper scale and they should be so located as to remove heavy surface traffic volumes from city streets.
- **5.** They should not divide self-contained or homogeneous communities or open spaces.

6. If they must be located through, or adjacent to, parks or other valuable open spaces, they must be designed so as to enhance the areas for which the areas were intended and should not significantly reduce the original area.

TRANSPORTATION SYSTEM CRITERIA

Freeways are parts of a transportation system. Their purpose is to carry the heavy volumes of traffic to the areas where activities are most heavily concentrated. In order to function properly they must provide efficient access connections to the streets in the areas of concentrated activity and should connect these access, or distribution, areas to the major routes that enter the city.

- 7. Freeways should not be designed to encourage short vehicular trips.
- **8.** Freeways should be used primarily as longer distance routes in the city with efficient systems of access to the central business district, and to areas of concentrated commercial and industrial development.
- 9. Freeways should be planned as parts of a total and complete transportation system, based on the desired future form of the city.
- 10. Each freeway should have a clear relationship to other freeways, roads and streets, local and regional transit, parking and pedestrian ways.

OPERATIONAL CRITERIA

There are simple and basic operational criteria for freeways which directly influence the drivers' understanding of the freeway's orientation and its relationship to the city. Therefore, they are properly considered as part of the urban design criteria for freeways. These criteria also affect the configuration of interchanges, route location and alignment.

- 11. Faster, through traffic should be in the left lanes and the drivers should be confident that they will continue on an identifiable through route if they keep to the left. To accomplish this, the freeway route must have a definite and understandable through orientation.
- 12. Traffic leaving the freeway to get onto the street system should leave on the righthand side.
- 13. Drivers should not have to make more than one decision in any maneuver area.

VISUAL DESIGN CRITERIA

Freeways must be designed for two points of view—the view of people moving along them and the view of people looking at them from other places.

The visual experience of drivers and passengers using a freeway is complicated by speed, traffic and the positions from which they view the road ahead. The functional criteria for the geometric design of highways establish certain minimum requirements which control the

basic design of a freeway but these are not the only standards that should guide design for the visual experience from the roadway. Freeway users can see new areas of the city and understand them, can develop a concern for them and appreciate the relationship of the parts of the city to one another and to themselves. Much of this new experience can be depreciated by freeway design. Abrupt changes in alignment, absence of adequate shoulders, mixture of right and left entrances and exits, inadequate signing and some of the designs of railings, barriers and other freeway hardware, cause feelings of confusion and insecurity and give the appearance of clutter. The lower deck of the Central freeway, the Bay Bridge approaches and some portions of the lower deck of the Embarcadero freeway are some obvious examples.

There has been some preliminary study of visual experience produced by freeway designs but there are not yet generally accepted criteria. There is recognition for the need for more understanding of the differences in scale, horizontal as opposed to vertical form, and the effects of the rapid movement.

The following visual design criteria should be considered.

- 14. The driver should know at all times where he is in the City and what he might expect to find ahead of him.
- 15. Abrupt visual changes and a series of strong, differing visual effects in rapid sequence should be avoided.
- 16. Views of important identifying features of the city and its surrounding features should be open to the driver at least occasionally.
- 17. Tunnel sections should not be so long or indirect that drivers lose their orientation and sense of contact with the surface.
- 18. Roadway pavements, shoulders, dividers and border areas should be delineated by carefully selected materials, textures and plantings.

The visual experience of freeways from other places is clearly susceptible to architectural solution. As existing instances, the Golden Gate Bridge blends with and even improves the natural setting; the Embarcadero freeway damaged the visual relationship between San Francisco's waterfront and the rest of the city.

Freeways should be designed and located with the intention of making them the fixed main transportation channels and permanent parts of the design of the city. Before the end of this century, it is possible that freeways will not be used by the same kind of traffic that uses them now; it is likely that new kinds of automated vehicle systems will be developed and will use existing freeways. However, the most permanent features of freeways are their alignments and rights of way, and these should be planned so that they will be of lasting value for the organization of the city.

Criteria for the architectural design of freeways as seen from other places should simplify and improve their functional form and make them compatible with the part of the city they pass through. Obviously, the freeway should ideally be planned in conjunction with new development or a major redevelopment.

Certain criteria, should be studied further as final freeway designs are developed, are:

- 19. Where a freeway is depressed but open to the sky, its potentially objectionable qualities of sound, noise, odor, and other characteristics should be minimized by landscaping, visual topographic barriers, or buildings that, in effect, absorb it. Air-right structures above the freeway offer design potentials. An irregular, undulating terrain at the side of the freeway, rather than a straight, abrupt cut, offer design possibilities.
- **20.** Where freeways are at grade, a sufficient right of way to allow effective landscaping is essential.
- 21. Where the freeway is above grade, it should form a strong, handsome urban design element. Some of the most beautiful structures man has built have been bridges and curved, sweeping elevated highways. This is an architectural-sculptural problem, going beyond pure engineering.
- **22.** Ramps and interchanges, at the below grade, use large expanses of horizontal land surface and must be designed in relationship with other surface treatments—landscaping, plazas and other open spaces, pedestrian walkways, adjacent buildings.
- 23. Ramps and interchanges above grade, become large-scale vertical elements in the city. They should either:
- a) become strong design elements in a section of the city where the scale of buildings and open spaces is great enough to receive them.
- b) be designed as separate elements, but in coordination with new large-scale development or redevelopment.
- c) be absorbed into new large-scale structures, as one overall design.

FIGURE 1. LAND FORMS. GOLDEN GATE LAND FORM

III. THE STRUCTURE OF THE CITY

Having established a set of urban design criteria for the location, configuration and detailed design of urban freeways, the next logical step is to examine the City of San Francisco in all aspects of its physical structure, to see how the criteria can be applied to this City's freeway problems. Such an examination should be beneficial in evaluating present freeway proposals, and in a larger sense it could form a useful background for further studies toward a total transportation system.

A brief description of the maps illustrating this study follows:

- 1. LAND FORMS. San Francisco's physical structure is largely determined by important land forms: the hills, with their crests, their slopes, their saddles, their bases—and most importantly their views; the surrounding water on three sides, forming waterfront perimeters, isolated crossings to surrounding areas—and again, views. Corridors for major east-west traffic arteries, unless long tunnels are considered, are few: the perimeter Golden Gate corridor, and the saddle-type Panhandle corridor are obviously among the most direct.
- 2. NEIGHBORHOODS. This diagram shows neighborhoods defined in the Community Renewal Program according to population characteristics as shown by income, occupation, family size, etc., and housing types and condition. Neither of these freeway corridors cut through these tightly-knit small neighborhoods.
- 3. RESIDENTIAL COMMUNITIES AND MAJOR OPEN SPACES. The communities in this diagram are defined by groupings of CRP neighborhoods and topographic natural boundaries, to form larger communities. Although these are not such closely related groupings as the smaller individual neighborhoods, ideally they should not be crossed by major traffic routes. The proposed freeway corridors do not cut these larger areas. Areas outside these defined communities are parts of the City devoted to commercial or industrial activity, which a freeway might service, or residential areas in which the CRP neighborhoods cannot be clearly grouped by topography.

FIGURE 2. NEIGHBORHOODS.

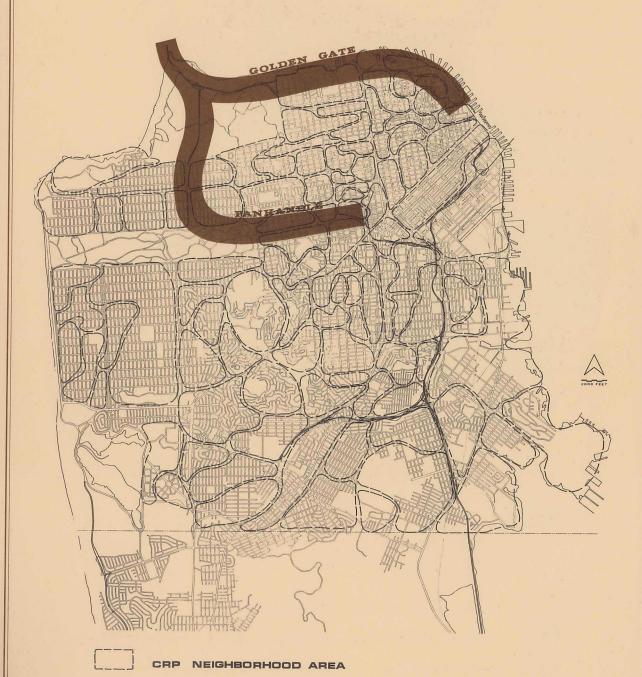


FIGURE 3. RESIDENTIAL COMMUNITIES AND MAJOR OPEN SPACES.



- RESIDENTIAL COMMUNITY DEFINED BY TERRAIN
- MAJOR OPEN SPACE

FIGURE 4. RESIDENTIAL QUALITY.



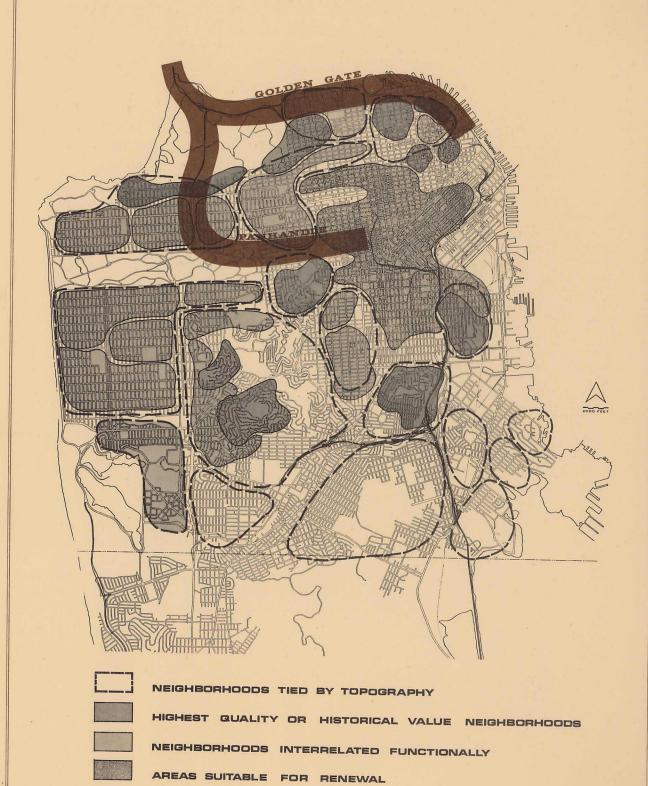
HIGHEST QUALITY

HISTORIC ENCLAVES

LOW QUALITY - IN NEED OF RENEWAL

CHANGING VIA RENEWAL

FIGURE 5. STABILITY OF RESIDENTIAL AREAS. OR OPEN SPACES.

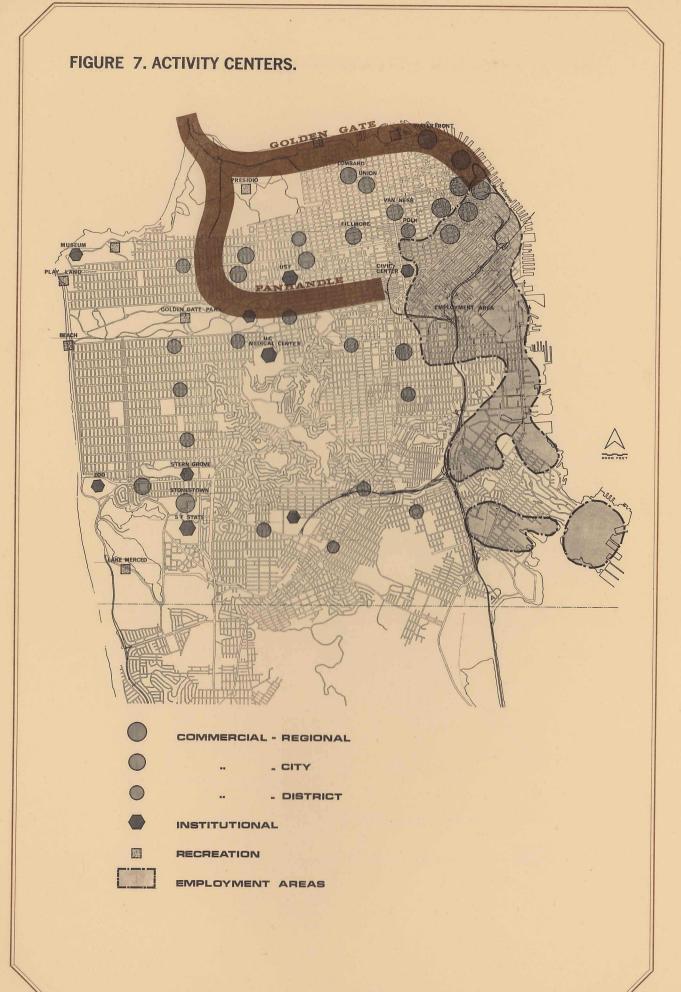


4. RESIDENTIAL QUALITY. This diagram is based on the CRP neighborhood amenities study, and indicates (1) areas of highest quality, with respect to general appearance, maintenance, proportion of families (versus single), quality of public facilities; (2) areas of low quality which are in need of renewal, have rapid turnover, lack of maintenance, social problems, etc.; (3) areas which are changing through renewal; (4) historic areas, defined by age and style of houses.

This diagram shows then, those areas in the city which should certainly not be invaded by major transportation facilities because of their unique qualities, and those areas where a freeway, introduced in conjunction with community planning, would not permanently disrupt the life in the area, but might even benefit it.

- **5.** STABILITY OF RESIDENTIAL AREAS. This diagram is a summary of the first four maps. It shows where natural channels occur between communities, where freeways might be introduced. The Panhandle and Golden Gate freeways follow such natural channels.
- **6.** COMMERCIAL AND INDUSTRIAL AREAS. This diagram shows existing commercial and industrial areas in the City. A freeway which gives easy access to concentrated commercial and industrial activity can greatly benefit such areas economically. Most of the dense commercial and industrial areas are located in places which are also indicated as suitable for possible freeway location.

FIGURE 6. COMMERCIAL AND INDUSTRIAL AREAS. GOLDEN GATE COMMERCIAL LAND USE INDUSTRIAL LAND USE



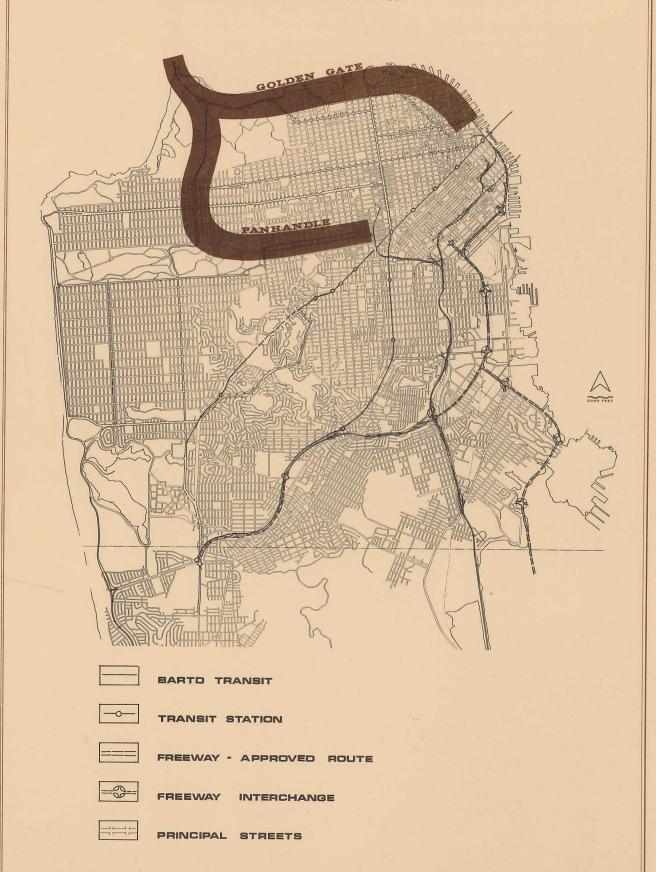
- 7. ACTIVITY CENTERS. This diagram represents existing activity centers in the city, and the major employment area, both industrial and commercial. Centers of regional importance attract people from outside the city limits: these are the institutional centers, the Union Square shopping core, the financial district, Nob Hill, North Beach and the North Waterfront, as well as Stonestown shopping center. It can be seen that the majority of the commercial centers of regional importance are now on the eastern side of the City. Since freeways tend to service and stimulate development of this kind of activity, an overall traffic plan including the Panhandle and Golden Gate corridors could encourage it more in the eastern part of the City, and in that way, sustain the economy of the Downtown Area.
- 8. DAILY TRAFFIC FLOW. This diagram shows current traffic flows on the major streets and freeways. By comparing 7 and 8, it can be seen that regional commercial centers, employment areas and freeways have far more influence on the traffic volumes than does the location of population within the City.
- 9. MAIN TRANSPORTATION ROUTES. This diagram shows freeway routes already built or programmed for imminent construction; together with proposed rapid transit facilities. It also indicates the surface streets which are at present the major thoroughfares. The freeway routes up to now have been concentrated in the eastern part of the City, where they serve commercial and industrial activity. The proposed mass transit routes will also serve these areas and will reach into the south western, low-density residential areas. To relieve the flow of east-west traffic on surface streets, additional mass transit facilities should be considered as well as the proposed Panhandle freeway.

FIGURE 8. DAILY TRAFFIC FLOWS.

SCALE FOR VOLUMES

TWENTY - FOUR HOUR TRAFFIC FLOW 1965

FIGURE 9. MAIN TRANSPORTATION ROUTES.





IV. THE GOLDEN GATE CORRIDOR

THE MARINA

Through the Marina, the freeway shown basically follows Route F. It becomes a depressed thoroughfare after the interchanges at the east end of the Presidio, and tunnels for a section, north of the Palace of Fine Arts, out onto the peninsula that forms the yacht harbor. Along the peninsula itself, the freeway adjoins the water, so designed in section that drivers can view the Bay, while the freeway cannot be seen from the Marina residential area.

From the eastern extremity of the peninsula the freeway tunnels under the mouth of the boat basin, reaching the main shore at approximately Webster Street. The tunnel then continues toward Fort Mason.

The urban design aspects of this part of the route are:

The freeway does not cut through any neighborhood area, but rather borders it.

By tunneling through the land south of the Yacht Club, the freeway allows uninterrupted use of the land surface, and a cohesive urban plan relating the Palace of Fine Arts to the Bay is possible.

Along the water, where the freeway is in the open, the contours of the land can be so shaped that the freeway itself will not impinge upon the view from Marina homes while drivers will have an unobstructed view of the Bay. While the existing Yacht Harbor will remain undisturbed the club house will require reconstruction.

By tunneling again toward Fort Mason, the freeway does not obstruct or prevent development of the Marina Green.

No residential areas are disturbed by this route.

FORT MASON

From about Buchanan Street to Van Ness Avenue, the freeway is depressed below grade, open to the sky for much of its length, and with several broad park areas crossing it. Franklin and Gough Streets will cross the freeway to provide ramp connections to the proposed surface street network.

The urban design qualities of this segment are again based on a design that largely conceals the freeway. Connections to the city street system are possible without disruption of neighborhood areas. No residential properties are lost. The freeway is largely invisible from residential areas. Drivers in both directions will emerge from tunnel sections to experience periods of open sky.

FISHERMAN'S WHARF AND NORTH BEACH

Through this section, if the Freeway Route F is followed, the route is depressed, cut and covered, using the space under North Point Street and the northerly half of the block between North Point and Bay Streets, from Van Ness Avenue to Stockton Street. In the area ad-

jacent to Ghiradelli Square, it is suggested that the street, when it is replaced, remain a widened and landscaped linear plaza. In other blocks, useable buildings could be constructed on air rights.

The Consultants have shown, however, that a central strip giving light to the freeway could be formed by building surface streets out over it on both sides. Columbus Avenue terminates in a major plaza, which is planned as part of a parkway system.

Connections are made to surface streets, where the freeway turns toward the northern base of Telegraph Hill.

This section of the route, in an urban design sense, does go through an existing defined neighborhood, and the proposed design disrupts the area as little as possible, and in the end improves it. The design shown indicates how new open spaces, which, could help adjacent areas develop, might be formed as a result of the freeway construction. In order to shorten the periods of tunnel travel for the driver, there must be sections open to the sky. In a functional sense, this segment of the freeway can act as a distribution system to serve and strengthen a potentially developing area of the City. The Northern Waterfront area can also be serviced by connectors at this point.

TELEGRAPH HILL AND THE NORTHERN WATERFRONT

As the freeway rounds the base of Telegraph Hill and reaches the Northern Waterfront area (in generally following Route F), it first goes diagonally south of the Sewage Treatment Plant, in a covered section, and then emerges to skirt the base of the Hill in a park-like setting. The plan shown allows freeway drivers to look out at the park, toward the base of the hill, up to Sansome Street. There the freeway would enter a sculpturally moulded sunken area, so designed that the slope of Telegraph Hill would continue on out over the freeway.

From this point connections can again be made to surface streets, so that the developing Northern Waterfront area and the Golden Gateway development can be serviced. The connection to the present elevated Embarcadero Freeway, the Urban Design Consultants believe, should be a temporary one, so that some day this obtrusive and disruptive structure can be replaced by a freeway below grade.

In an urban design sense, this section of the route—kept as close to Telegraph Hill as possible—runs between two different land-use sections of the City, and in that sense is not disruptive. It can act as a service route, strengthening an area of the City which is about to develop. It would combine tunneled and open driving experiences. The view of the freeway from Telegraph Hill would be minimized, and in some sections it would not be at all apparent.

As an alternative, the route along the Embarcadero (approximately Route F-1) has been explored. The design shown depresses the freeway along the waterfront, leaving sufficient area for port use, and providing a split Embarcadero thoroughfare on either side of long openings to the freeway below. Between Battery and Front Streets,

the freeway emerges, for a temporary connection to the existing Embarcadero freeway.

The principal disadvantage of this alternate route, in the opinion of the Consultants, is that it separates the developing northern waterfront land from the Bay.







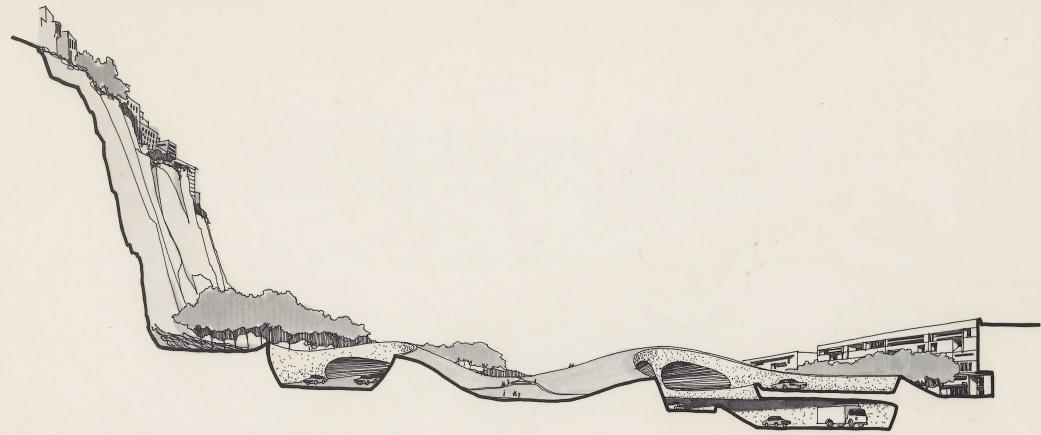




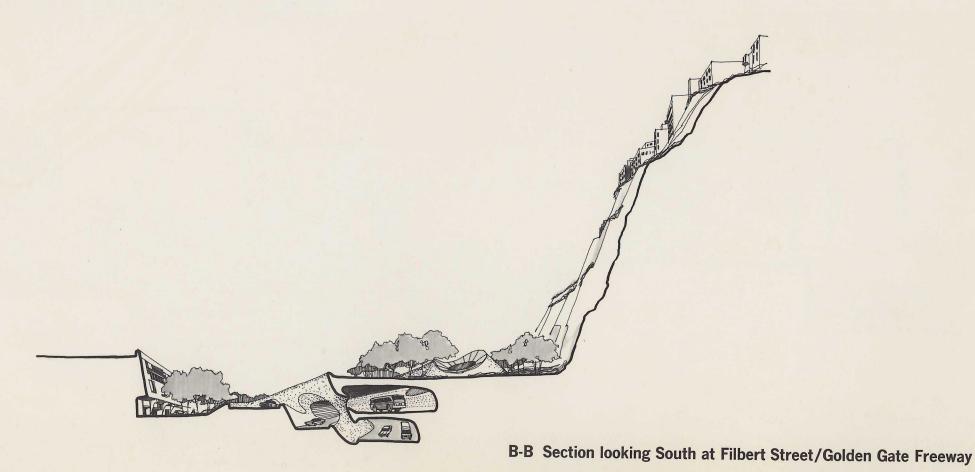


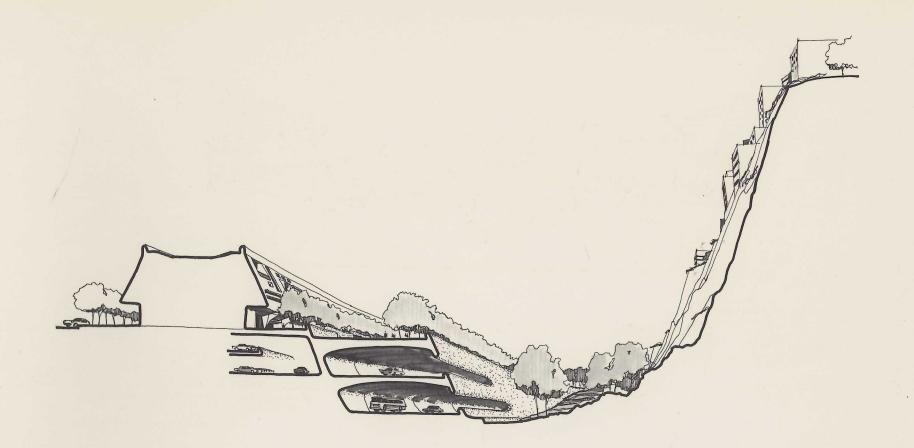




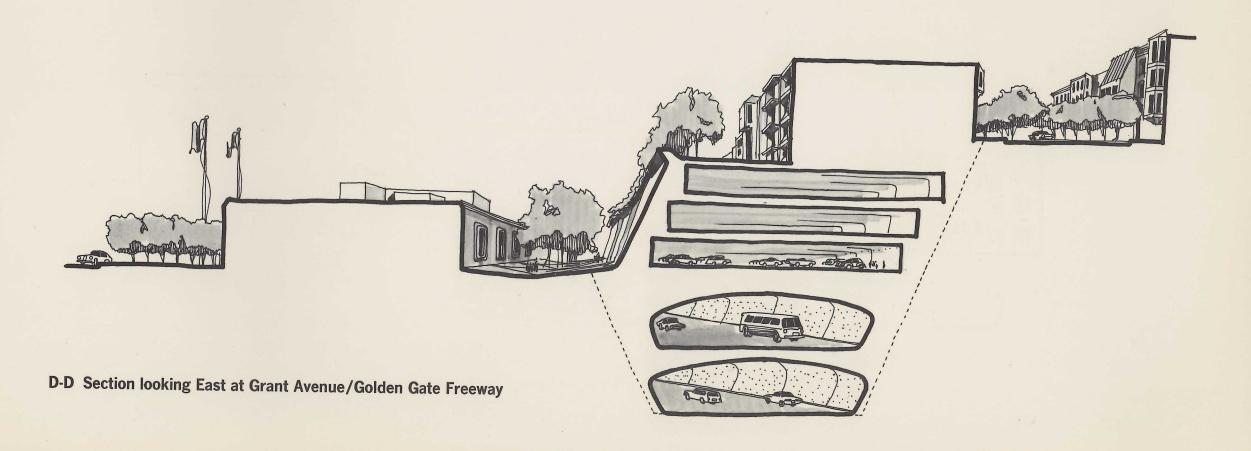


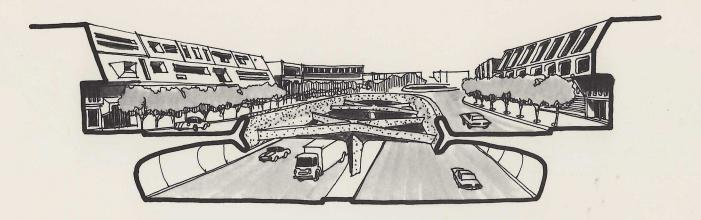
A-A Section looking North at Green St./Golden Gate Freeway



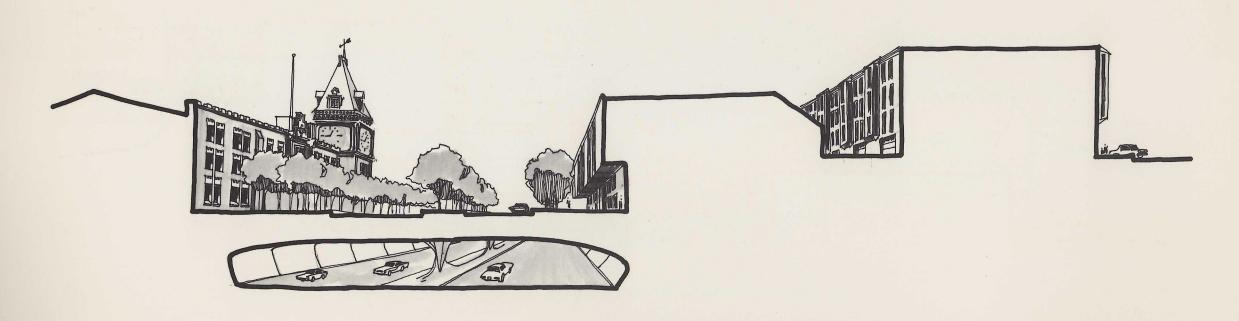


C-C Section looking South at Chestnut Street/Golden Gate Freeway

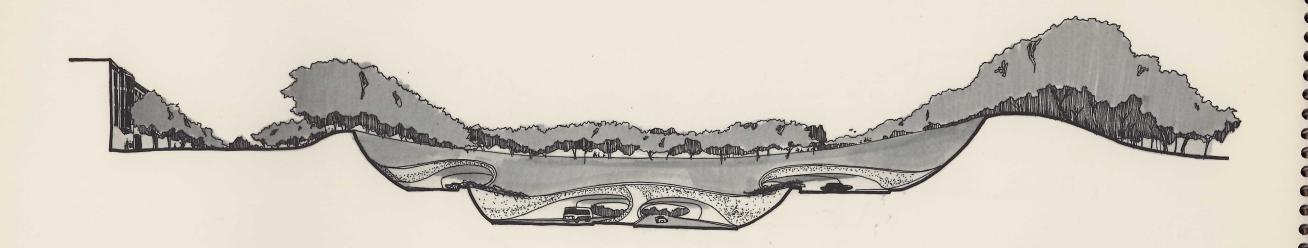




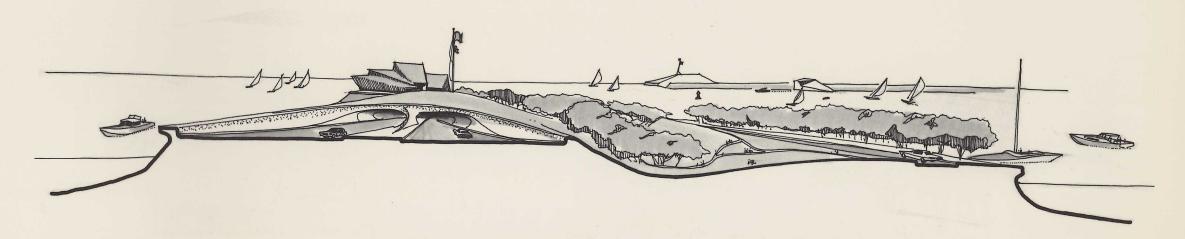
E-E Section looking East between Mason & Taylor/Golden Gate Freeway



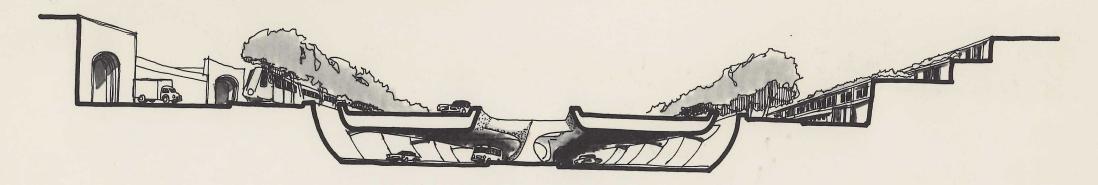
F-F Section looking East between Polk and Larkin/Golden Gate Freeway



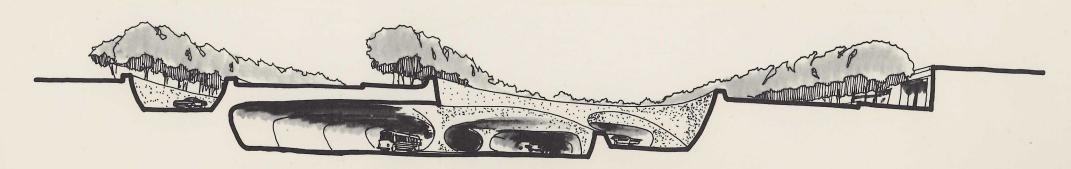
G-G Section looking West at Octavia Street/Golden Gate Freeway



H-H Section looking East off Scott Street/Golden Gate Freeway



X-X Section looking South at Sansome Street/Embarcadero Alternate



Y-Y Section looking East between Powell & Stockton/Embarcadero Alternate

V. THE PANHANDLE CORRIDOR

PRESIDIO TO GOLDEN GATE PARK

Through the Presidio and along the Park-Panhandle Corridor, the freeway follows a direct route tunneling through part of the Presidio, the freeway rises to grade for a time and then crosses under Lake Street and continues south in a depressed roadway between 14th Avenue and Funston Avenue. There will be interchanges to the surface streets at Lake, and again at the southerly end of this corridor, at Fulton Street. Through the park area, there will be a street above the freeway, somewhat below surface level, providing connections to the cross streets, and drawing local traffic to the central strip. In this way 14th Avenue and Funston Avenue can be, in a major sense, retained by the residents and can be landscaped—since through traffic will have been diverted. Above the freeway, the Consultants' drawings indicate that park land can be extended out in a series of planned, planted and useable extensions.

In an urban design sense, this section of the freeway cuts between two recognizable neighborhoods, which nevertheless form an overall integrated residential area. It must therefore be made as inconspicuous as possible, by depressing it. The open space must be made as attractive and useable as possible, and it is for this reason that the extensions are suggested. This section of the City is serviced by the interchanges at each end. Although the freeway will bring additional traffic to this medium-density residential area, it can serve to remove some through traffic from neighborhood streets. The driver, emerging from a tunnel in either direction, will have a stretch of sky above him.

GOLDEN GATE PARK

The transition from the Park-Presidio corridor to the section through, or alongside, Golden Gate Park is a curve and interchanges at Fulton Street. Here the freeway will be designed to minimize two risks: the taking of residential property north of Fulton Street, and the destruction of trees in the redwood grove at this point in the Park. The final geometrics of the freeway design will have to consider carefully both of these situations. The buildings that will be affected by this turn, and its interchanges, are analyzed in another section of the Report.

Routes through or alongside the Park have been carefully considered. The most direct route and the most simple geometrics, (Route J) would go as a tunnel under the Main Drive in the Park itself.

To minimize destruction of trees, a two-level tunnel is suggested, rather than the wider single-level design previously considered.

An alternative route (Route H) is also shown, under Fulton Street, in a tunnel which would extend under a strip of park land at the northern edge of the Park. This route would require some replanting, and results in a less direct orientation, with more difficult geometrics.

This section of the route, quite obviously, serves no major urban design purpose. Its most important design criteria must be the least

possible disturbance to private property and to open land, and concealment by tunneling.

THE PANHANDLE

The freeway will leave its Golden Gate Park sector and enter the Panhandle at a curve, with interconnections, at Stanyan Street. Here again, geometrics of the freeway design must be so planned that a minimum of disruption of the surface, and of existing private properties, takes place. The analysis of properties taken for the freeway as shown is contained in another section of the Report.

Along the Panhandle, it is proposed to depress the freeway in the center of the Park strip, with useable park areas extending out over the freeway in each block, in a manner similar to that suggested for the Park-Presidio corridor. Masonic Avenue would bridge the Park and freeway, as at present. An interchange connecting to the local street system, is indicated between Broderick and Scott Streets, as the freeway leaves the present Panhandle. Fell Street and Oak Street can benefit by having through traffic largely diverted from them, and can again become more quiet thoroughfares.

In an urban design sense, no totaly homogeneous community is being disrupted: The Panhandle effectively now divides the neighborhoods to its north and south from one another.

FILLMORE HILL

From Baker Street the freeway continues in the same corridor between Fell and Oak Streets, depressed. Here properties (largely commercial) will have to be taken in the first two blocks. New housing units can be built on air rights above the freeway in some places, as the architects for the housing consultants have indicated. Further on, the freeway can be opened above. This is a medium-density residential area, susceptible to improvement. Landscape design is carefully planned, and new structures above the freeway are of a character to set a standard for future development. Under Fillmore Hill, it is proposed to tunnel; in this way there will be a minimum disruption of the neighborhood for this section. Possible air-right design solutions are shown by the Urban Design Consultants.

In an urban design sense, this section of the freeway goes through a homogeneous neighborhood, but one that can be improved. While this violates normal criteria, the use of new buildings above the freeway to set the pace for other development could be an interesting project.

The driver on the freeway will have a succession of changing experiences.

CENTRAL FREEWAY CONNECTION

The Urban Design Consultants propose that the connection to the present superstructure that terminates at the Central Freeway at Octavia Street be made a temporary one as it is anticipated that changes in the Central Freeway will ultimately be required. The

structure that the connection and the various interchanges will require will be complicated and at a tremendous scale. No amount of design can do more than make curves more graceful and add land-scaping, which the Consultants have indicated. As in the case of the present Embarcadero superstructure, it is hoped that a way can be found in the future to eliminate this well-publicized example of what an urban freeway should not do.

From this connection to the Bay Bridge the route assumes use of the existing Central Freeway.

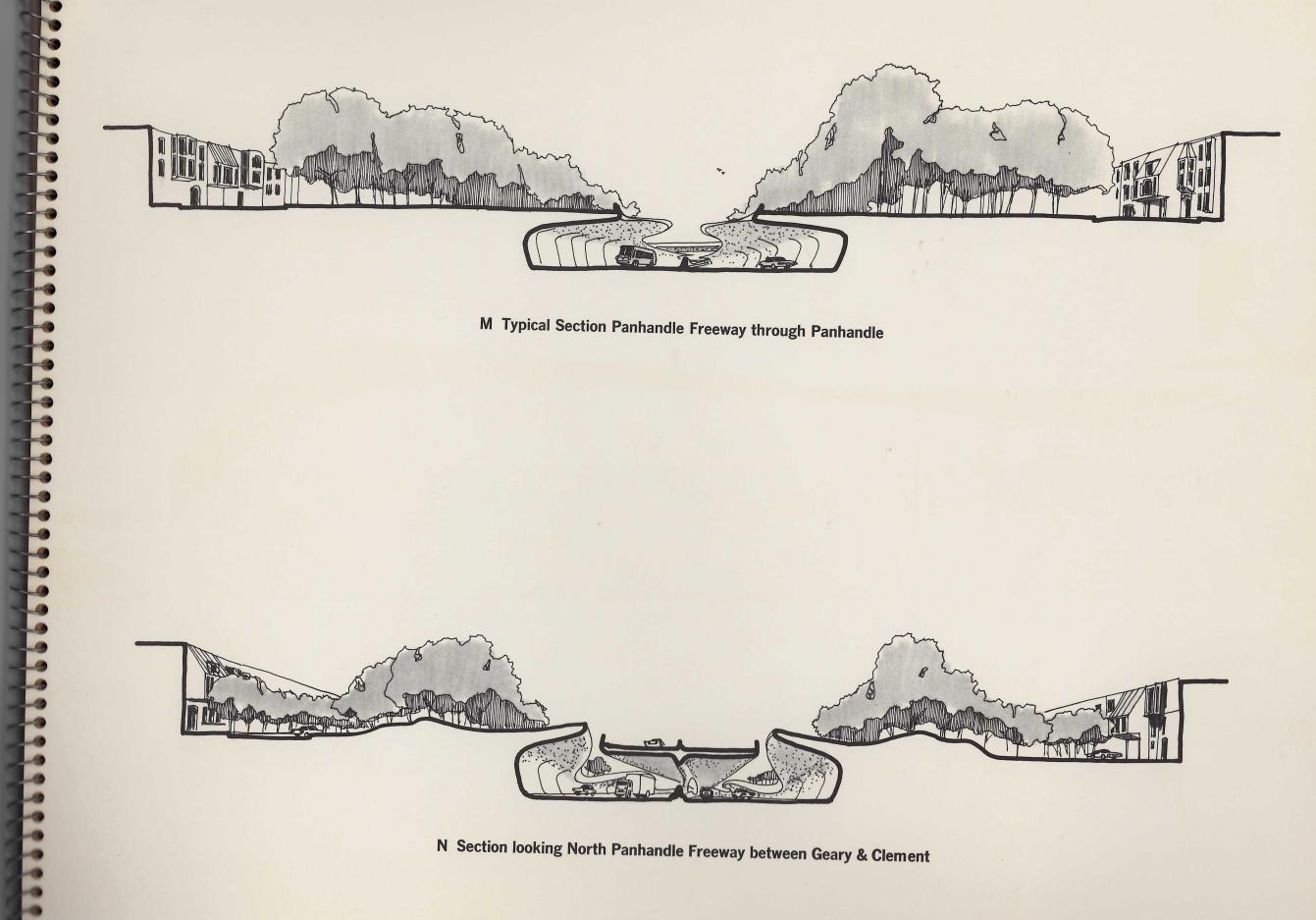
Proposed Panhandle Freeway PRELIMINARY PLAN FOR DESIGN STUDY ONLY



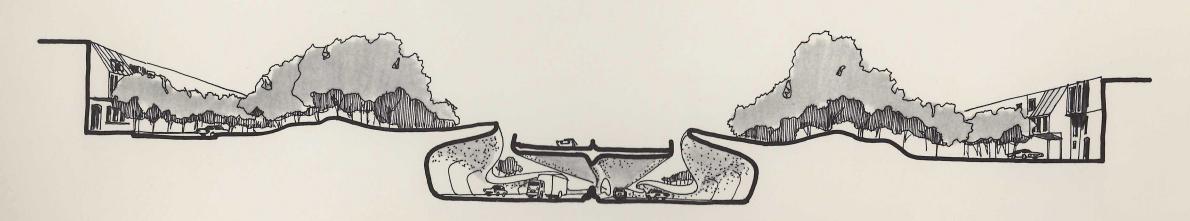








M Typical Section Panhandle Freeway through Panhandle



N Section looking North Panhandle Freeway between Geary & Clement

